SOSEN

SPECIFICATIONS

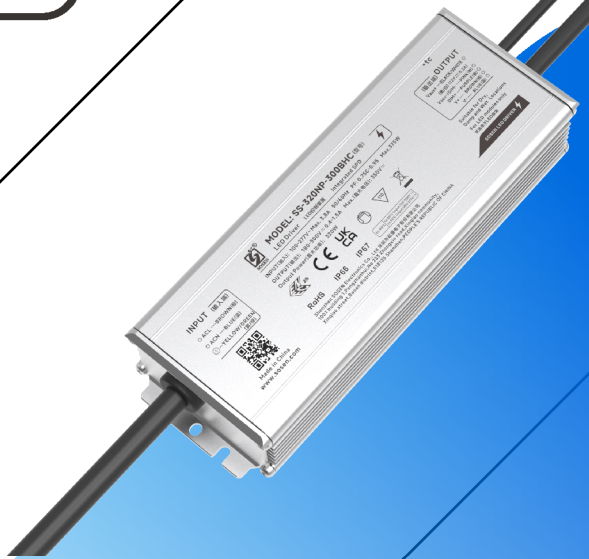
SS-320NP-300*
CC DRIVER

Model: SS-320NP-300*

Power: 320W

Rev.: V00

Release date: 2026-07-08



SS-320NP-300* LED DRIVER

Features

- Efficiency up to 97%
- Isolated dimming:0-10V,PWM,Resistor
- Optional aux：12V/0.2A
- Time-controlled programmable
- Timed Dimming (TIM), End-of-Life Alert (ELA), Constant Lumen Output (CLO)
- Dimming can be turned off, no afterglow when turned off
- Standby Power<0.5W
- Protections: SCP/OTP/OVP/UVP
- Output Current Adjustment Method: Dimming Wire Programming
- Wide output voltage range
- Surge protection: CM: 10kV,DM: 6kV
- IP66/IP67
- Warranty: 5 years

RoHS IP66 IP67

Description

SS-320NP-300* are 320W non-isolated constant current LED Driver with 90-305VAC.
It has DIM to Off, high efficiency, isolated auxiliary power supply, Compatible with intelligent emergency controls,compact housing ,fullypotted , high reliability, high cost performance and other advantages.
Applications:
Suitable for sports field lights, streetlights, tunnel lights, floodlights, and plant grow lights.

Model List

Model	AC Input Range	Max. Pout	Vout Range	Recommended Volltage	Iout Range	Default Current	THD (Typ.)	PF (Typ.)	Eff. (Typ.)	Max.Tc
SS-320NP-300*	90-305Vac	320W	180-300V	260V-300V	0.4-1.5A	1.33A	8%	0.97	97%	90°C

Note:
1.Default Tested: at 220Vac, full load, Ta 25°C.
2.The performance of the LED Driver can be guaranteed within the full power Vo range.The voltage lower than full power Vo range,it is need to test the performance with the LED module.

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"*" Means Additional Function

"*"	AUX 12V (suffix:H)	Dimming off 0-10V/PWM/Resistor	1-10V/PWM Resistor(suffix:B)	adjust power (Single DIP)	Light-controlled	NTC	Remark
BHC	✓	✓					No Afterglow

Input Characteristics:

Parameter	Min.	Typ.	Max.	Remark
Rated AC Input Range	100Vac		277Vac	
AC Input Range	90Vac		305Vac	Reference derating curve
Input DC Voltage Range	127Vdc		300Vdc	
Input Frequency Range	47Hz	50/60Hz	63Hz	
Max Input Current			3.8A	120Vac, Full load
Max Input Power			375W	120Vac, Full load
Max Inrush Current(120Vac)			60A	Cold start
Max Inrush Current(220Vac)			80A	Cold start
Max Inrush Current(277Vac)			100A	Cold start
Standby Power			0.5W	220Vac/50Hz, Dim-to-off
Power Factor	0.95	0.97		220Vac, Full load
	0.90			120-277Vac, 60%-100% load
THD		8%	10%	220Vac, Full load
			20%	120-277Vac,60%-100% load

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Output Characteristics

Parameter	Min.	Typ.	Max.	Remark
O/P Voltage Range	180V		300V	Power derated @180-214V
Rated O/P Voltage	214V		300V	Po=Vo*Io=320W, Full load
Rated O/P Current	1.06A		1.5A	1.5A for 214V,1.06A for 300V
Adj. O/P Current (AOC) Range	0.4A		1.5A	Default current: 1.33 A
No Load Voltage			350V	
Efficiency @120Vac	92.0%	94.0%		Output 300V/1.06A
Efficiency @220Vac	94.5%	96.5%		Output 300V/1.06A
Efficiency @277Vac	95.0%	97.0%		Output 300V/1.06A
O/P Current Tolerance	-5%		+5%	
O/P Current Ripple(PK-AV)		5%	10%	Full load
Start-up Current Overshoot			10%	Full load
Start-up Time			0.5S	120-277Vac,Full load
Line Regulation	-5%		+5%	Full load
Load Regulation	-5%		+5%	
Temperature Coefficient	-0.06%/°C		+0.06%/°C	Tc:0°C~90°C
OTP	90°C	93°C	96°C	Drop current when OTP, and it can be automatically restored after the abnormality is removed.
Short Circuit Protection				Driver will not be damaged Constant current mode or hiccups

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Output Characteristics

Parameter		Min.	Typ.	Max.	Remark
Aux Power	O/P Voltage	10.8V	12V	13.2V	Within a 6.0 ms cycle, the maximum peak currentof 400 mA may be sustained for a maximum duration of 2.2 ms,and the average current must not exceed 250 mA.
	O/P Current			200mA	
0-10V Dimming	Dim Vmax	0V		12V	DIM+ source current 110uA. Reverse connection of DIM+ and DIM- is strictly prohibited. Programmable from 5 V to 0 V
	Dim Range	10%Iomax		100%Ioset	
	Rec.Dim Range	0V		10V	
10–0 V negative logicDimming function (Configurable)	Recommended dimming voltage	0V		10V	DIM+ input current: max. 40 μA Reverse connection of DIM+ and DIM- is strictly prohibited Programmable from 5 V to 0 V
PWM Dimming	PWM High	9.8V		10.2V	DIM+ source current 110uA.
	PWM Low	0V		0.3V	Dimming prohibits reverse connection
	Frequency	1KHz		2KHz	
	PWM Duty	0%		100%	
Resistor Dimming	Resistance	0Kohm		100Kohm	DIM+ source current 110uA.
	Dim Range	10%Iomax		100%Ioset	
Dim to Off	Dim off	0.7V	0.8V	0.9V	Dimming ratios based on voltage, PWM, and resistance
	Dim on	0.9V	1.0V	1.1V	
Timer function		Microcontroller Program			Set the timer via the program
Lifetime(Tc≤85°C)		≥50,000 hours			load
MTBF		200,150 hours			220Vac,Full load, Ta=25°C (MIL-HDBK-217F)
Tc		90°C			
Warranty		5 years			Tc 85°C
Net Weight		892g			
Dimension		189mm*66mm*37mm			L x Wx H

NOTE: All the parameters above are tested Ta 25°C and LED load, unless specified.

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Environmental Requirements

Parameter	Min.	Typ.	Max.	Remark
Operating Temperature(Tcase)	-40°C	25°C	+90°C	
Storage Temperature	-40°C	25°C	+90°C	
Operation Humidity	10%RH		90%RH	
Storage Humidity	5%RH		95%RH	
Altitude	-65m		4000m	

Safety and EMI/EMS Standards

Certification	Standard	Status	Remark
UL	UL8750		
CUL	CAN/CSA C22.2 No.250.13		
ENEC	EN 61347-1 EN 61347-2-13 EN IEC 62384	✓	
RCM	AS/NZS61347.2.13		
CCC	GB/T 19510.1 GB/T 19510.213		
CE	EN 61347-1 EN 61347-2-13 EN 62493	✓	
	EN 301 489-1 EN 301 489-3 EN 300 330 EN 62479/EN 50663/EN 50665/EN 50364		
UKCA	EN 61347-1 EN 61347-2-13 EN 62493 BS EN 61347-1 BS EN 61347-2-13 BS EN 62493	✓	
EAC	EN 61347-2-13 EN 61347-1 TP TC 004/2011 TP TC 020/2011		

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Safety and EMI/EMS Standards

EMI/EMS	Criterion	Status	Remark
Conduction Emission	EN IEC 55015	✓	230Vac
	GB/T 17743		
	FCC Part 15 Subpart B;ANSI C63.4		120/277Vac;ClassB
Radiation Emission	EN IEC 55015	✓	230Vac
	GB/T 17743		
	FCC Part 15 Subpart B;ANSI C63.4		120/277Vac;ClassB
Harmonic Current Emissions	EN IEC 61000-3-2	✓	ClassC
	GB 17625.1		ClassC
Surge	IEC EN61000-4-5	✓	DM: 6kV,CM: 10kV,Criterion B
	ANSI/C82.77-5		DM: 6kV,CM: 6kV,Criterion B
Ring Wave	IEC EN 61000-4-12	✓	DM: 6kV,CM: 6kV,Criterion B
	ANSI/C82.77-5		DM: 6kV,CM: 6kV,Criterion B

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Safety Test Items

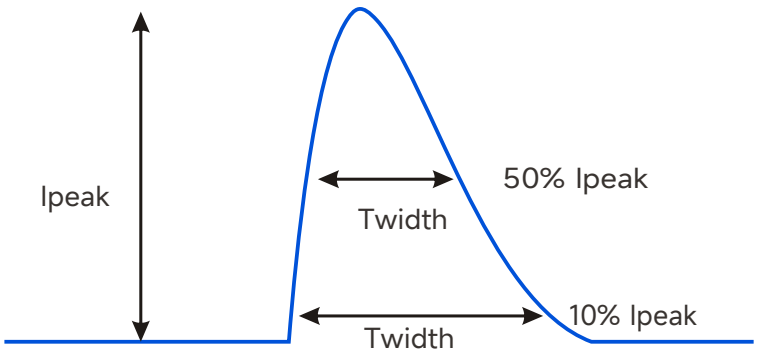
Safety Test Items	Technical Indicators	Remark
Insulation Requirements	ENEC Insulation Requirements	
Input-Case	2U+1000Vac	Basic insulation
Input-Dim	4U+2000Vac	Reinforced insulation
Dim-Case	500Vac	Basic insulation
Insulation Resistance	≥10MΩ	Input-Dim,Test voltage:500Vdc
Ground Resistance	≤0.1Ω	25A/1min
Leakage Current	≤0.75mA	277Vac

NOTE:

1. SOSEN warrants the LED Driver itself complies with EMC standard. However, LED Driver's EMC should be re-checked when integrated into lighting systems due to unexpected interference of components.
2. For voltage withstand test, short-circuit between L/N, short-circuit between output line positive/negative, short-circuit between dimmer line and VPP or between dimmer line and auxiliary source positive/negative.

Performance Curves

Input Inrush Current



Vin	Ipeak	T(@10% of Ipeak)	T(@50% of Ipeak)
120Vac	60A	900uS	500uS
220Vac	80A	700uS	400uS
277Vac	100A	600uS	350uS

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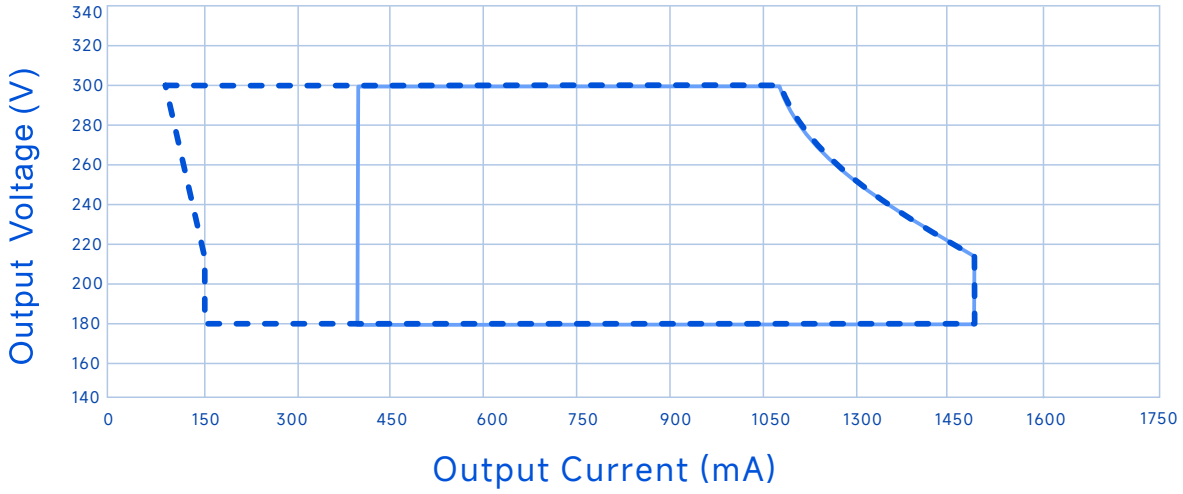
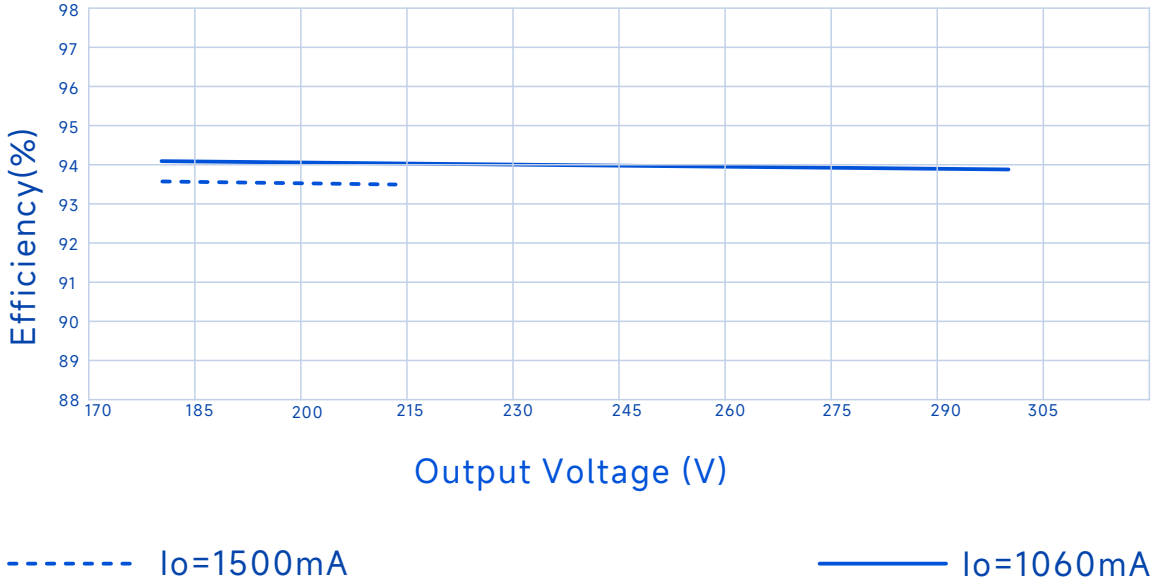
Performance Curves

Output Voltage Vs. Output Current(Dim/AOC Window)



Efficiency Vs. Output Voltage (Vin=120Vac)



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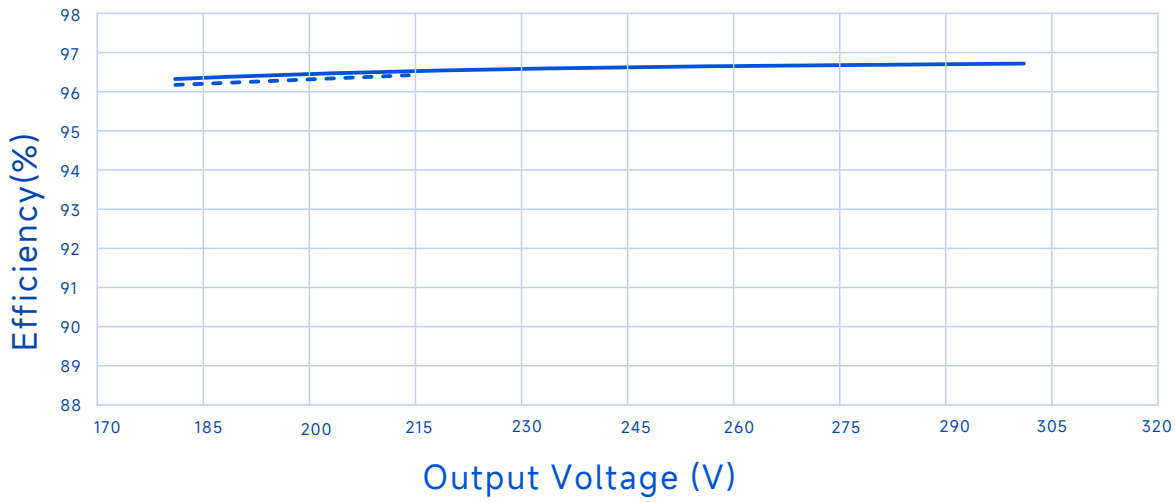
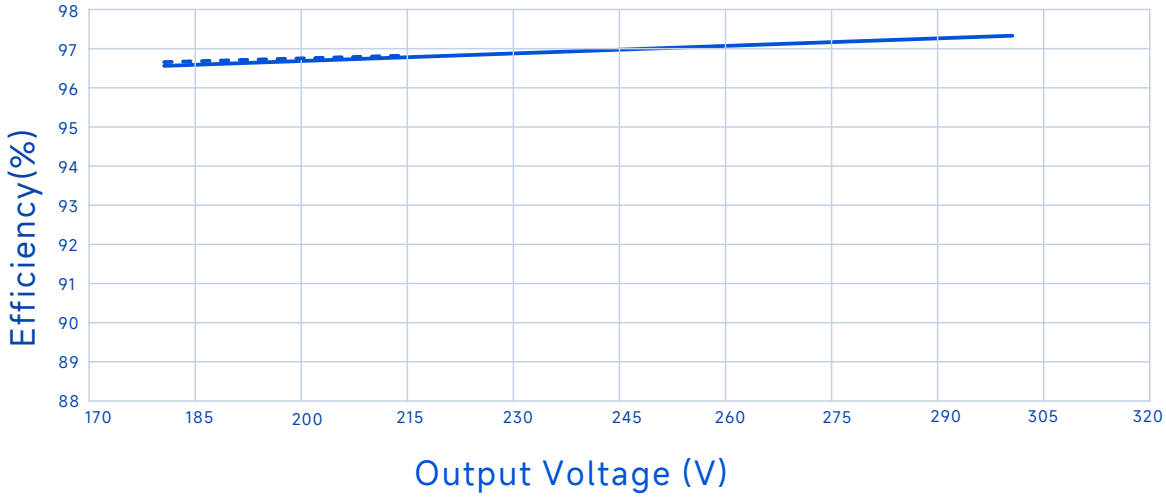
Performance Curves

Efficiency Vs. Output Voltage (Vin=220Vac)



------- Io=1500mA ——— Io=1060mA

Efficiency Vs. Output Voltage (Vin=277Vac)



------- Io=1500mA ——— Io=1060mA

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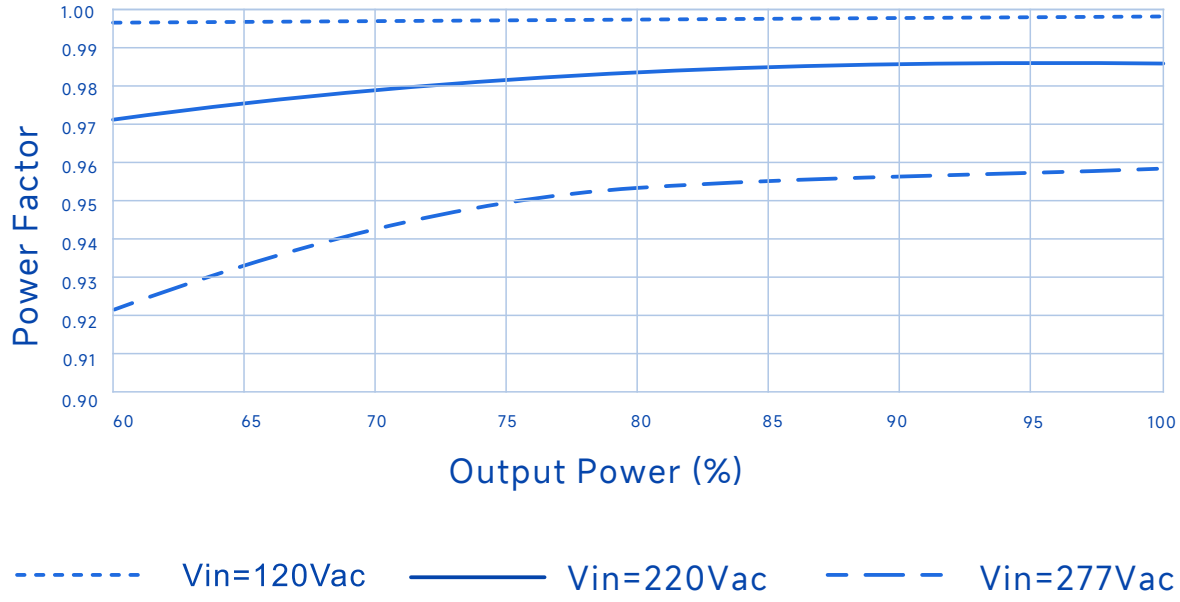
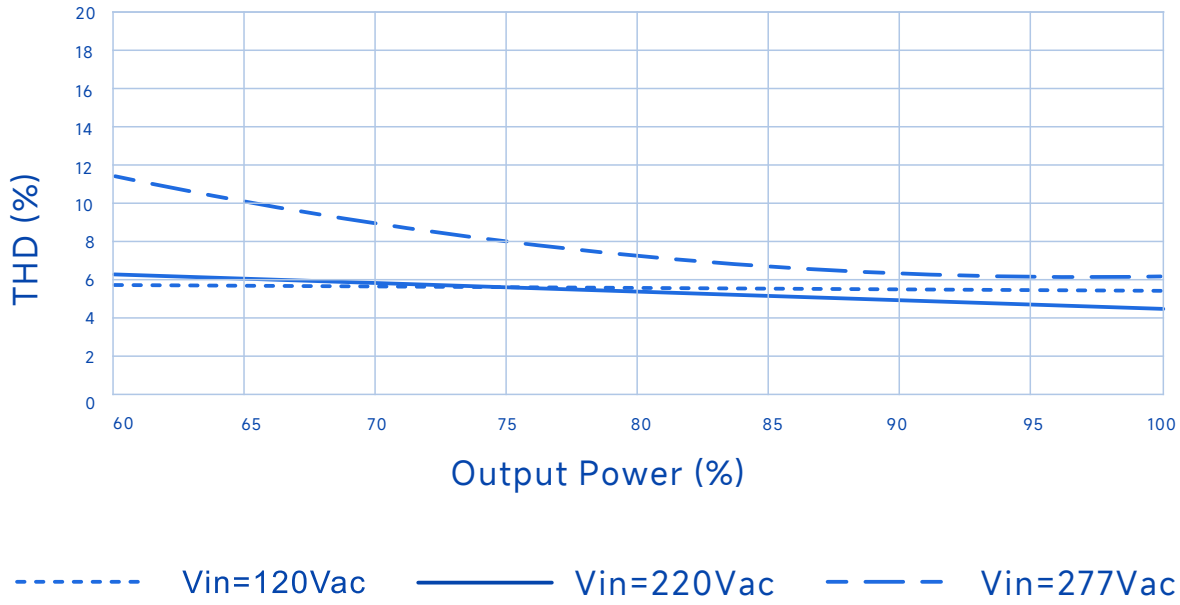
Performance Curves

Power Factor Vs. Output Power



THD Vs. Output Power



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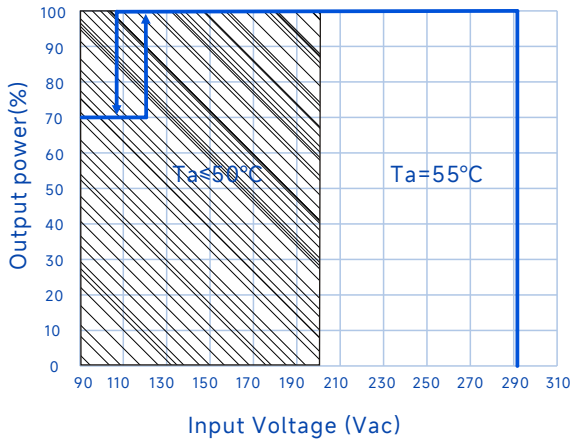
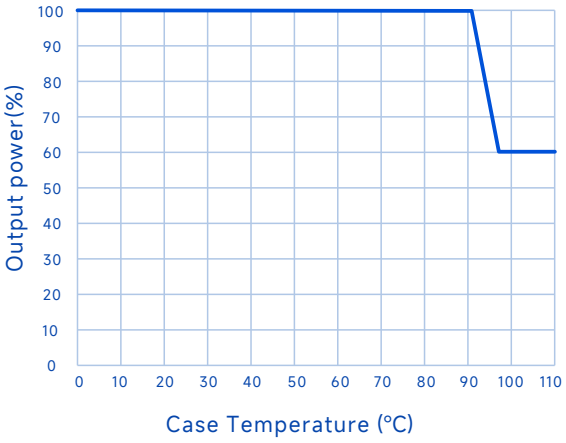
Performance Curves

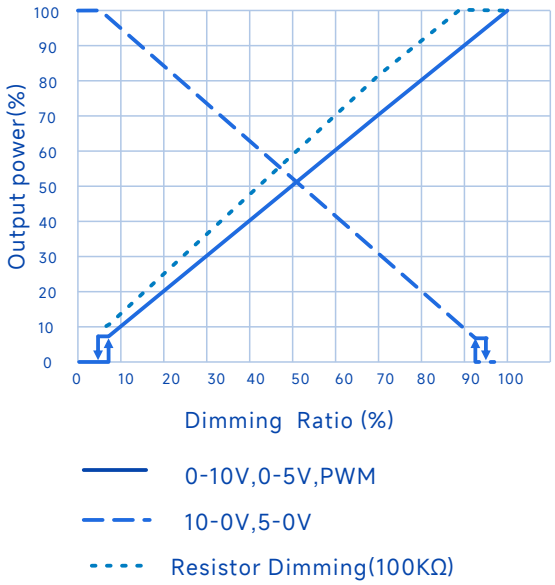
Output Power Vs. Input Voltage



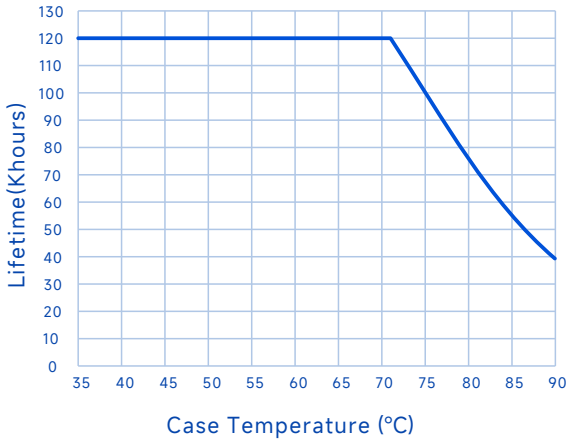
Output Power Vs. Case Temperature



Output Power Vs. Dimming



Lifetime Vs. Case Temperature



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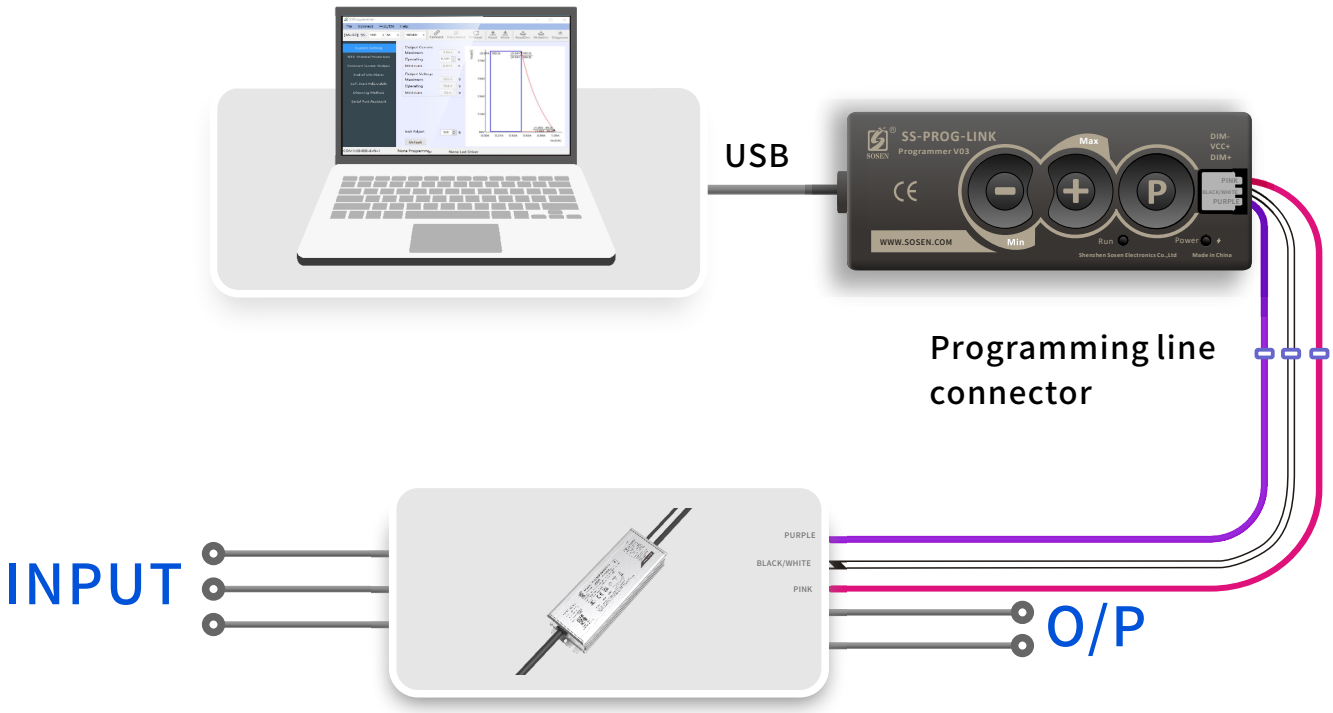
Programming connection diagram

Legacy Timer: Driver's O/P follows the pre-programmed timing curve after turn-on.
Auto-Adjust by Percentage: Driver's O/P will be adjusted by automatically changed dimming curve by the period percentage based on the latest 5 dimming curve.
Auto-Adjust by Mid-point: Driver's O/P will be adjusted by automatically changed dimming curve by mid-point based on the latest 5 dimming curve.



Note:

For details, please refer to the Sosen SS-PROG-LINK Programmer Manual.

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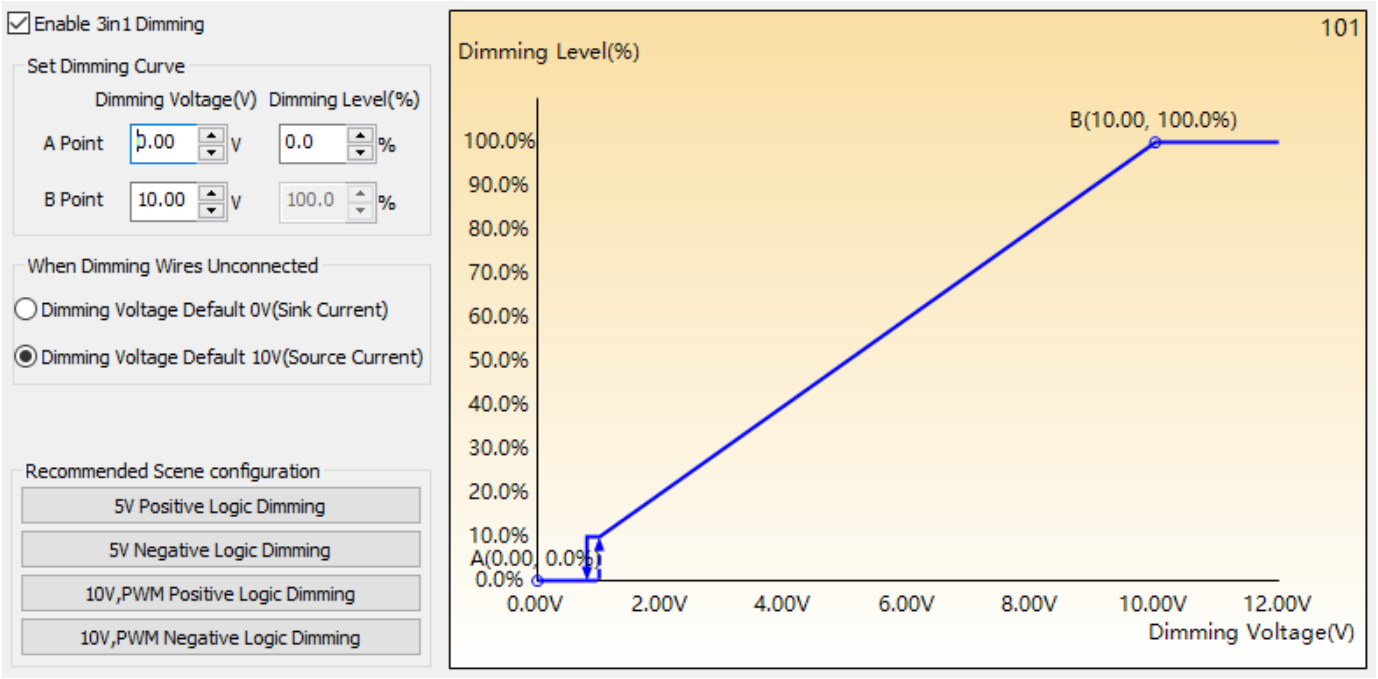
Dimming parameter settings

Parameter			Remark
Default setting	Positive logic dimming (0-10V)	Dimming voltage default 10V (source current)	
	Negative logic dimming (10-0V)	Dimming voltage default 0V (sink current)	
Dimming optional function	Positive logic dimming (0-10V)	Dimming voltage default 0V (sink current) Resistance dimming not available	When the dimming wire is not connected, the LED driver output is DIM OFF. (to be noted in the order)
			For parallel dimming applications with multiple LED drivers, it is recommended to use the sink current mode (to be noted in the order)

Note: Select “Default dimming voltage 10V (output current)” or “Default dimming voltage 0V (input current)” based on the dimmer used by the end user.

Settings Interface



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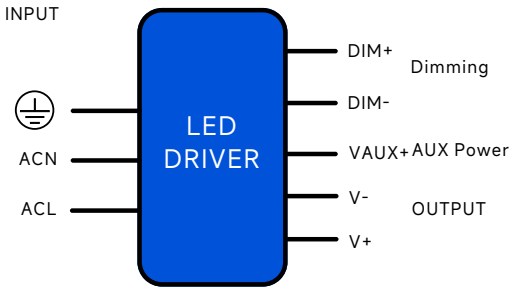
Mechanical Characteristic

Wire Specifications



AC Input Cable (Exposed Length 450±10mm):

Global model: SJOW, 3*17 AWG, O.D: 8.0mm, Brown: L, Blue: N, Yellow/Green: ⏚

UL model : SJTW, 3*18 AWG, O.D: 7.8mm, Black: L, White: N, Green: ⏚

DC O/P Cable (Exposed Length 250±10mm):

Global model: SJOW, 2*17AWG, O.D: 7.7mm, Brown: V+, Blue: V-

UL model : SJTW, 2*18AWG, O.D: 7.3mm, Red: V+, Black: V-

DIM Cable (Exposed Length 220±10mm):

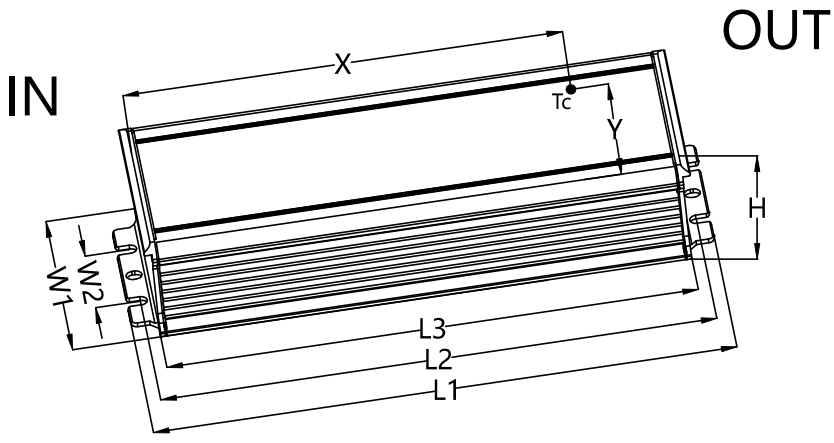
UL model: 21996, 3*22AWG,O.D: 4.9mm, Purple: DIM+, Pink: DIM-, Black/White: Vaux+,

AC Input Cable,DC O/P Cable,DIM/AUX Power/Programming Cable:
Peeled length of cable:43±5mm, Tinned length of wire:10±2mm.

Mechanical Characteristic

Dimensions and Mounting Dimensions

Name Description	Standard Code	mm(In.)
Overall Length	L1	189(7.44)
Mounting Hole Length	L2	180(7.08)
Case Length	L3	172(6.77)
Case Width	W1	66(2.6)
Mounting Hole Width	W2	27(1.06)
Case Height	H	37(1.46)
TC Point Position	X	148(5.82)
TC Point Position	Y	53(2.08)



Note
Please follow the "LED Driver User Manual" obtained from SOSEN's official website for assembly.

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Assembly Tips

1. The trace routing on aluminum substrates is designed in compliance with creepage distance requirements specified by relevant certification regulations.
2. The creepage distance between LED+ and LED- on the aluminum substrate is designed in compliance with the relevant certification regulations.
3. Minimize the copper area on the aluminum PCB to reduce parasitic capacitance and leakage current.
4. It is recommended to design LED beads in parllel first and then in series.
5. The insulation level of LED light panels should meet the reliability design requirements.
6. It is recommended not to exceed the parameters used in the specification, otherwise it may lead to a higher risk of power supply reliability.
7. For other precautions, please refer to the "LED Driver User Manual".
8. SOSEN reserves the right of final interpretation of the above parameters.

Warning

Insufficient or compromised insulation voltage resistance in LED light panels may cause breakdown and short circuits to earth, resulting in damage to the luminaire and LED driver, and posing significant safety hazards. It is recommended to install a residual current device (RCD) during application.

Package

- Outside carton dimension: L×W×H =495mm×385mm×162mm;
- 16PCS/Carton;
- Net weight/Piece: 0.892kg;Gross weight/Carton: 15.49kg;
- Please refer to the product name, model number, manufacturer identification, QC PASS, manufacturing date on the package.

Transportation

Packaging is designed suitable for transportation by trucks, vessels and flights. The products should be avoided direct sunlight and rain, loaded/unloaded with caution.

Storage

The product storage meets the standard of the GB 3873—83.
Products should be rechecked if stored for over 1 year before assembly.

RoHS

Products comply with RoHS Directive (2011/65/EU) and amendment 2015/863/EU.

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Revision History

Version	Description of Update	Updated Date	Remark
V00	Original Release	2026/07/08	

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